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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,836	11/04/2003	Jun Suzuki	031261	5573

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EXAMINER	
PATEL, GAUTAM	
ART UNIT	**PAPER NUMBER**
2627	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,836	SUZUKI ET AL.	
	Examiner	Art Unit	
	Gautam R. Patel	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-8 are pending for the examination. Claims 7-8 are newly presented for examination.

Claim Rejections - 35 U.S.C. § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated Funakoshi et al., US. patent 6,480,346 (hereafter Funakoshi).

As to claim 1, Funakoshi discloses the invention as claimed [see Figs. 1-8, especially 1-4] including an actuator, a pickup, a lens holder, an objective lens, and an adhesive layer, comprising:

an actuator for use in a pickup device, which moves a lens holder [fig. 1, unit 1] holding an outer peripheral portion [fig. 4, portion 11] of an objective lens [fig. 4, unit 10], wherein an adhesive layer [fig. 4, agent 20] is formed between the outer peripheral portion [fig. 4, area 11] of the objective lens and the lens holder, the adhesive layer having a thickness dimension which is sufficient enough to absorb deformation of the lens holder when the lens holder is deformed due to resonance [col. 3, line 35 to col. 4, line 51].

Note: Since this lens holder is used in a optical pickup device, an actuator etc. are inherently present in a n optical device.

3. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Funakoshi:

a spacer [fig. 4, unit 5] which contacts the outer peripheral portion of the objective lens is provided between the outer peripheral portion of the objective lens and the lens holder [col. 3, line 35 to col. 4, line 51].

4. The aforementioned claim 3, recites the following elements, inter alia, disclosed in Funakoshi:

the adhesive layer is formed by filling an adhesive agent between the outer peripheral portion of the objective lens and the lens holder [col. 3, line 35 to col. 4, line 51].

5. The aforementioned claim 4, recites the following elements, inter alia, disclosed in Funakoshi:

spacer is a projection formed integrally on the lens holder [col. 3, line 35 to col. 4, line 51].

6. As to claim 7, it is rejected for the similar reasons set forth in the rejection of claim 1, above.

NOTE: Electromagnetic drive is inherently present for moving the lens holder in system as presented by Funakoshi [see background col. 1, lines 5-62].

Claim Rejections - 35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Funakoshi as applied to claims 1-4 above.

Regarding claim 5 Funakoshi discloses all of the above elements. Although Funakoshi does not specifically disclose that the projection is provided at each of three positions maintaining a substantially equal interval between each other along a circumferential direction of the objective lens. Funakoshi teaches that there is gap [equal interval] between circumferential direction the objective lens. The limitations in claim 8 do not define a patentable distinct invention over that in Funakoshi since both the invention as a whole and Funakoshi are directed

to providing the adhesive layer between the lens and the objective lens and the lens holder. The amount of time spacing provided [three times] presents no new or unexpected results, so long as the spacing is provided and the assembly is moved in a successful way. Therefore, to have three spacing would have been routine experimentation and optimization in the absence of criticality.

8. As to claim 6, Funakoshi teaches an actuator for use in a pickup device, which moves a lens holder holding an outer peripheral portion of an objective lens by means of an electromagnetic drive, wherein the outer peripheral portion of the objective lens and the lens holder are provided, maintaining a predetermined clearance between each other, an adhesive agent is provided in the clearance, and a resonance frequency f of the objective lens is set higher than a predetermined servo band to be applied to drive the electromagnetic drive, and lower than a resonance frequency of the lens holder.

Funakoshi does not teach that the resonance frequency f of the objective lens being obtained by an expression: $f^2 = k/m$ where k is a spring constant of the adhesive agent and m is mass of the objective lens.

"Official Notice" is taken that both the concept and the advantages of providing for a resonance frequency which is a function of constant K and mass m. This concept is well known and expected in the art. In this part of claim 6, the Applicants are merely claiming the basic and fundamental equation of the resonance frequency and how a spring or spring like material functions and how frequency, spring constant and mass are related. These are fundamental concept related to any type of spring action and hence this basic well known fundamental equation is not a patentable limitations, per se [M.P.E.P. 2144.03].

9. Regarding claim 8, although Funakoshi does not specifically disclose that the adhesive layer is 100 μm or more to the extent claimed. Funakoshi teaches that sufficient thickness of adhesive layer to absorb the resonance. The limitations in claim 8 do not define a patentable distinct invention over that in Funakoshi since both the invention as a whole and Funakoshi are directed to removing the vibration and/or distortion in the lens holder use in an optical pickup. The thickness of the adhesive layer that is being used presents no new or unexpected results, so long as the vibration are absorbed. If one needs more robust design thicker layer is used if one

needs less absorption a thinner layer is used. Therefore, to have 100 μm or more adhesive layer would have been routine experimentation and optimization in the absence of criticality.

ALTERNATE REJECTION

Claim Rejections - 35 U.S.C. § 102

10. Claims 1-4 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated Hori et al., US. patent 6,342,979 (hereafter Hori).

As to claim 1, Hori discloses the invention as claimed [see Figs. 1-8, especially 1, 5-7] including an actuator, a pickup, a lens holder, an objective lens, and an adhesive layer, comprising:

an actuator for use in a pickup device [fig. 1, unit 11], which moves a lens holder [fig. 5, unit 71] holding an outer peripheral portion [fig. 7, portion 65, 67 and 69] of an objective lens [fig. 7, unit 15], wherein an adhesive layer [fig. 7, 89] is formed between the outer peripheral portion [fig. 7, area 65 & 69] of the objective lens and the lens holder, the adhesive layer having a thickness dimension which is sufficient enough to absorb deformation of the lens holder when the lens holder is deformed due to resonance [col. 3, line 61 to col. 4, line 63].

11. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Hori:

a spacer which contacts the outer peripheral portion of the objective lens is provided between the outer peripheral portion of the objective lens and the lens holder [col. 3, line 61 to col. 4, line 63].

12. The aforementioned claim 3, recites the following elements, inter alia, disclosed in Hori:

the adhesive layer is formed by filling an adhesive agent between the outer peripheral portion of the objective lens and the lens holder [col. 3, line 61 to col. 4, line 63].

13. The aforementioned claim 4, recites the following elements, inter alia, disclosed in Hori:

spacer is a projection formed integrally on the lens holder [col. 3, line 61 to col. 4, line 63].

Claim Rejections - 35 U.S.C. § 103

14. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hori as applied to claims 1-4 above.

Regarding claim 5 Hori discloses all of the above elements. Although Hori does not specifically disclose that the projection is provided at each of three positions maintaining a substantially equal interval between each other along a circumferential direction of the objective lens. Hori teaches that there is gap [equal interval] between circumferential direction the objective lens. The limitations in claim 8 do not define a patentable distinct invention over that in Hori since both the invention as a whole and Hori are directed to providing the adhesive layer between the lens and the objective lens and the lens holder. The amount of time spacing provided [three times] presents no new or unexpected results, so long as the spacing is provided and the assembly is moved in a successful way. Therefore, to have three spacing would have been routine experimentation and optimization in the absence of criticality.

15. As to claim 6, Hori teaches an actuator for use in a pickup device, which moves a lens holder holding an outer peripheral portion of an objective lens by means of an electromagnetic drive, wherein the outer peripheral portion of the objective lens and the lens holder are provided, maintaining a predetermined clearance between each other, an adhesive agent is provided in the clearance, and a resonance frequency f of the objective lens is set higher than a predetermined servo band to be applied to drive the electromagnetic drive, and lower than a resonance frequency of the lens holder.

Hori does not teach that the resonance frequency f of the objective lens being obtained by an expression: $f^2 = k/m$ where k is a spring constant of the adhesive agent and m is mass of the objective lens.

"Official Notice" is taken that both the concept and the advantages of providing for a resonance frequency which is a function of constant K and mass m. This concept is well known and expected in the art. In this part of claim 6, the Applicants are merely claiming the basic and fundamental equation of the resonance frequency and how a spring or spring like material functions and how frequency, spring constant and mass are related. These are fundamental concept related to any type of spring action and hence this basic well known fundamental equation is not a patentable limitations, per se [M.P.E.P. 2144.03].

16. Regarding claim 8, although Hori does not specifically disclose that the adhesive layer is 100 μm or more to the extent claimed. Hori teaches that sufficient thickness of adhesive layer to absorb the resonance. The limitations in claim 8 do not define a patentable distinct invention over that in Hori since both the invention as a whole and Hori are directed to removing the vibration and/or distortion in the lens holder use in an optical pickup. The thickness of the adhesive layer that is being used presents no new or unexpected results, so long as the vibration are absorbed. If one needs more robust design thicker layer is used if one needs less absorption a thinner layer is used. Therefore, to have 100 μm or more adhesive layer would have been routine experimentation and optimization in the absence of criticality.

17. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new grounds of rejection.

Other prior art cited

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Maeda et al. US patent Application US 2003/0179469. **Maeda teaches an adhesive layer of thickness 10 μm or more at the edges of an objective lens.**

Contact information

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, who can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.

GAUTAM R. PATEL
PRIMARY EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2627

February 18, 2007